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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/706,728	11/12/2003	Oscar del Rio Herrero	033339/271350	7260
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ALSTON & BIRD LLP BANK OF AMERICA PLAZA 101 SOUTH TRYON STREET, SUITE 4000 CHARLOTTE, NC 28280-4000			EXAMINER KANG, SUK JIN	
			ART UNIT	PAPER NUMBER
			2616	
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

## Office Action Summary

Application No.

10/706,728

Applicant(s)

RIO HERRERO ET AL.

Examiner

Suk Jin Kang

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 12 November 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12 November 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>11/12/03</u>  | 6) <input type="checkbox"/> Other: _____                          |

## DETAILED ACTION

### *Priority*

1. Receipt is acknowledged of a certified copy of the French Patent Application # 0214637 referred to in the oath or declaration or in an application data sheet. If this copy is being filed to obtain the benefits of the foreign filing date under 35 U.S.C. 119(a)-(d), applicant should also file a claim for such priority as required by 35 U.S.C. 119(b). If the application being examined is an original application filed under 35 U.S.C. 111(a) (other than a design application) on or after November 29, 2000, the claim for priority must be presented during the pendency of the application, and within the later of four months from the actual filing date of the application or sixteen months from the filing date of the prior foreign application. See 37 CFR 1.55(a)(1)(i). If the application being examined has entered the national stage from an international application filed on or after November 29, 2000, after compliance with 35 U.S.C. 371, the claim for priority must be made during the pendency of the application and within the time limit set forth in the PCT and Regulations of the PCT. See 37 CFR 1.55(a)(1)(ii). Any claim for priority under 35 U.S.C. 119(a)-(d) or (f) or 365(a) or (b) not presented within the time period set forth in 37 CFR 1.55(a)(1) is considered to have been waived. If a claim for foreign priority is presented after the time period set forth in 37 CFR 1.55(a)(1), the claim may be accepted if the claim properly identifies the prior foreign application and is accompanied by a grantable petition to accept an unintentionally delayed claim for priority. See 37 CFR 1.55(c).

***Information Disclosure Statement***

2. The information disclosure statement has submitted on November 12, 2003 has been considered by the Examiner and made of record in the application.

***Specification***

3. The abstract of the disclosure is objected to because of the reasons described below. Correction is required. See MPEP § 608.01(b).

Applicant is reminded of the proper language and format for an abstract of the disclosure. The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

***Claim Objections***

4. **Claim 1** is objected to because of the following informalities:

a) On line 33 of claim 1, replace "n" with --n-- after "corresponding";

For purposes of applying prior art, all claims above will be read with the suggested corrections made to the claim. Appropriate correction is required.

***Claim Rejections - 35 USC § 112***

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. **Claims 1, 4, and 9** are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

**Claim 1** recites the limitation "the output headers" in line 24. There is insufficient antecedent basis for this limitation in the claim. Also in lines 31-32, the limitation "...the corresponding n data packets in the aggregate multiplexed signal..." is incomplete and lacks any meaning within the scope of the claim.

**Claim 4** recites the limitation "the selection" in line 1. There is insufficient antecedent basis for this limitation in the claim.

Regarding **claim 9**, the phrase "such as" renders the claim indefinite because it is unclear whether the limitations following the phrase are part of the claimed invention. See MPEP § 2173.05(d).

***Claim Rejections - 35 USC § 103***

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the Examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the Examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

8. **Claims 1-8** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Ge et al.** (U.S. Patent Application Publication # 2002/0057861 A1) in view of **Chang et al.** (U.S. Patent Application Publication # 2002/0146027 A1).

Consider **claim 1**, Ge et al. discloses a routing method for a multiplex system having N inputs each designed to receive one of N input multiplexes (12, figure 1) each having M input channels, each of the channels serving to transport an input packet ([0031], [0032]), and N' outputs each serving to generate one of the N' output

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multiplexes (48, figure 1) each made up of output channels each serving to transport an output packet ([0058] lines 5-7), each of the  $M$  channels used in the input multiplex (14, figure 1) comprising a data packet associated with an input header serving firstly to identify the packet and secondly to specify at least one output to which it is to be routed ([0031] lines 6-9, [0038]), wherein each of the  $N'$  output multiplexes has  $M+L$  channels with  $L \geq 0$  (figure 2B, [0068]), and wherein the method implements the following operations: for the data, multiplexing  $N$  input channels each having  $M$  multiplexed packets so as to generate an aggregate multiplex signal comprising all of the data packets representing the  $N$  input multiplexes (69, figure 1, [0056]); and for each of the  $N'$  outputs, providing the inputs of  $M+L$  selection chains disposed in parallel with access to the aggregate multiplexed signal (42, 44, figure 1); for the input headers, performing demodulation and decoding (20, control unit, figure 1); and for the headers and the data, selecting from  $\underline{n}$  of the  $M+L$   $((N \times n) + m)$ , [0068] lines 3-9) selection chains corresponding to the  $k^{\text{th}}$  output ( $N^{\text{th}}$  output, [0068]) on the basis of the input headers corresponding to  $\underline{n}$  packets that are to be routed to the  $k^{\text{th}}$  of the  $N'$  outputs, and multiplexing these  $\underline{n}$  data packets with the corresponding  $\underline{n}$  output headers in order to generate the  $k^{\text{th}}$  output multiplex, where  $k=1, 2, \dots, N'$  (48, figure 1, [0038], [0068]), but may not expressly disclose for the output headers, performing encoding and modulation on the basis of the demodulated and decoded input headers.

In the same field of endeavor, Chang et al. discloses for the output headers, performing encoding and modulation on the basis of the demodulated and decoded input headers ([0053], figure 3, [0080], figure 26, [0110]).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate encoding and modulating the output headers as taught by Chang et al. with the method as disclosed by Ge et al. for the purpose of efficiently and effectively routing data packets.

Consider **claim 2**, and as applied to claim 1, Ge et al., as modified by Chang et al., discloses a method wherein L is a non-zero integer ([0065] lines 8-13).

Consider **claim 3**, and as applied to claim 1, Ge et al., as modified by Chang et al., discloses the claimed invention as well as a method wherein each of the input multiplexes comprises data packets and a signalling channel containing headers (abstract, [0031] lines 6-9, [0038] 1-13), furthermore, Chang et al. also discloses wherein each of the N input multiplexes is demultiplexed in order to separate the headers from the data packets (figure 8, [0133] lines 1-8, [0134] lines 12-19).

Consider **claim 4**, and as applied to claim 1, Ge et al., as modified by Chang et al., discloses a method wherein said selection comprises: preliminary selection (24, figure 1) to select from the aggregate multiplexed signal the input multiplex(es) containing the data packets to be routed to the  $k^{\text{th}}$  output ([0046] lines 1-4, [0049] lines 3-7); and packet selection (42, figure 1) to select from each of said input multiplexes the data packet(s) to be routed to the  $k^{\text{th}}$  output ([0059] lines 6-12, [0072] lines 3-12).

Consider **claim 5**, and as applied to claim 1, Ge et al., as modified by Chang et al., discloses a method wherein the aggregate multiplexed signal is generated by wavelength-division multiplexing for the N input multiplexes, a said wavelength being



allocated to each input multiplex (abstract, [0032], [0033]), and wherein said preliminary selection implements demultiplexing using said wavelength ([0045], [0046], [0049]).

Consider **claim 6**, and as applied to claim 4, Ge et al., as modified by Chang et al., discloses a method wherein the aggregate multiplexed signal is generated by wavelength-division multiplexing for the N input multiplexes (69, figure 1, [0056]), a said wavelength being allocated to each input multiplex (abstract, [0060] lines 1-10), and wherein said selection implements first wavelength-division demultiplexing to perform the preliminary selection ([0044], [0045]), and second wavelength-demultiplexing to perform said packet selection ([0059]).

Consider **claim 7**, and as applied to claim 1, Ge et al., as modified by Chang et al., discloses a method wherein said multiplexing of the selected data packets implements: wavelength-division multiplexing of the data packets to be routed to the  $k^{\text{th}}$  output ([0068]); and wavelength-division multiplexing of the headers corresponding to said data packets to be routed to the  $k^{\text{th}}$  output ([0038], [0043]).

Consider **claim 8**, and as applied to claim 7, Ge et al., as modified by Chang et al., discloses a method wherein the selected data packets and headers are multiplexed in the output multiplex of the  $k^{\text{th}}$  output (46, figure 1, [0058], [0061], [0068]).

Consider **claim 9**, and as applied to claim 1, Ge et al., as modified by Chang et al., discloses a device for implementing the method according to claim 1, the device presenting: a first system comprising: an N input multiplexing module (34, figure 1) for receiving and multiplexing the N input multiplexes, each of which comprises up to M multiplexed packets, and for generating as output said aggregate multiplexed signal (69,

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figure 1, [0056]); a distributor circuit (36, figure 1) such as a bus for distributing said aggregate multiplexed signal to an input of each of N' processing chains each allocated to one of the N' outputs of the device and each presenting M+L selection circuits in parallel (figure 2B, [0068], [0069]); and each selection circuit presenting a beam selector (24, figure 1), a channel selector (24, figure 1), and a channel converter (16 figure 1); and a second system comprising: a demodulation and decoding circuit (20, control unit, figure 1) presenting N inputs for receiving the headers corresponding to the data packets in each of the N input multiplexes ([0031], [0038]) and for demodulating and decoding said headers; a processor circuit (20, control unit, figure 1) for processing the demodulated and decoded input headers so that each said selection circuit selects a packet for routing to the output with which it is associated ([0031], [0038]); a header generator module (20, control unit, figure 1) for generating, for each output, the output headers corresponding to each of the n output data packets from said selection circuits of said output ([0043]); and wherein, for each of said selection circuits, the channel converter (44, figure 1) presents means for adding to each of said data packets an output channel identification signal so as to place said n data packets belonging to the same output on different channels ([0059], [0060]); and wherein the device includes an output multiplexer module (46, figure 1) for each of said N' outputs of the device to multiplex the data packets allocated to said outputs with the output headers corresponding to said packets ([0038], [0068], [0069]), furthermore, Chang et al. discloses an encoder and modulator circuit (321, figure 3) for encoding and modulating the output headers generated by the header generator module ([0110], [0111]).

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**Conclusion**

9. The prior art made of record and not relied upon is considered pertinent to Applicant's disclosure.

a) Lee et al. (U.S. Patent # 6,288,808 B1)

b) Langer (U.S. Patent # 5,341,369)

10. Any response to this Office Action should be **faxed to (571) 273-8300 or mailed to:**

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

**Hand-delivered responses** should be brought to

Customer Service Window  
Randolph Building  
401 Dulany Street  
Alexandria, VA 22314

11. Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Suk Jin Kang whose telephone number is (571) 270-1771. The examiner can normally be reached on Monday - Friday 8:00-5:00 EST.

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor, Chau Nguyen can be reached on (571) 272-3126. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free) or 703-305-3028.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist/customer service whose telephone number is (571) 272-2600.

Suk Jin Kang  
S.J.K./sjk

July 11, 2007



CHAU NGUYEN  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2600